Code Generator for RL78(CS+ for CC) V2.09.00

Release Note

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Chapter 1. Target Devices

Below is a list of devices supported by the Code Generator for RL78/I1A V2.03.02.01	
PIN	Device name
20pin	R5F1076C
30pin	R5F107AC, R5F107AE
32pin	R5F107BC
38pin	R5F107DE
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/I1A User's Manual: Hardware	R01UH0169JJ0210 Rev.2.10
	R01UH0169EJ0210 Rev.2.10

Below is a list of devices supported by the Code Generator for RL78/G12 V2.03.02.01	
PIN	Device name
20pin	R5F10266, R5F10267, R5F10268, R5F10269, R5F1026A R5F10366, R5F10367, R5F10368, R5F10369, R5F1036A
24pin	R5F10277, R5F10278, R5F10279, R5F1027A R5F10377, R5F10378, R5F10379, R5F1037A
30pin	R5F102A7, R5F102A8, R5F102A9, R5F102AA R5F103A7, R5F103A8, R5F103A9, R5F103AA
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/G12 User's Manual: Hardware	R01UH0200JJ0200 Rev.2.00
	R01UH0200EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/G13 V2.03.02.01	
PIN	Device name
20pin	R5F1006A, R5F1006C, R5F1006D, R5F1006E R5F1016A, R5F1016C, R5F1016D, R5F1016E
24pin	R5F1007A, R5F1007C, R5F1007D, R5F1007E R5F1017A, R5F1017C, R5F1017D, R5F1017E
25pin	R5F1008A, R5F1008C, R5F1008D, R5F1008E R5F1018A, R5F1018C, R5F1018D, R5F1018E
30pin	R5F100AA, R5F100AC, R5F100AD, R5F100AE, R5F100AF, R5F100AG R5F101AA, R5F101AC, R5F101AD, R5F101AE, R5F101AF, R5F101AG
32pin	R5F100BA, R5F100BC, R5F100BD, R5F100BE, R5F100BF, R5F100BG R5F101BA, R5F101BC, R5F101BD, R5F101BE, R5F101BF, R5F101BG
36pin	R5F100CA, R5F100CC, R5F100CD, R5F100CE, R5F100CF, R5F100CG R5F101CA, R5F101CC, R5F101CD, R5F101CE, R5F101CF, R5F101CG
40pin	R5F100EA, R5F100EC, R5F100ED, R5F100EE, R5F100EF, R5F100EG, R5F100EH R5F101EA, R5F101EC, R5F101ED, R5F101EE, R5F101EF, R5F101EG, R5F101EH
44pin	R5F100FA, R5F100FC, R5F100FD, R5F100FE, R5F100FF, R5F100FG, R5F100FH R5F100FJ, R5F100FK, R5F100FL R5F101FA, R5F101FC, R5F101FD, R5F101FE, R5F101FF, R5F101FG, R5F101FH R5F101FJ, R5F101FK, R5F101FL
48pin	R5F100GA, R5F100GC, R5F100GD, R5F100GE, R5F100GF, R5F100GG, R5F100GH R5F100GJ, R5F100GK, R5F100GL R5F101GA, R5F101GC, R5F101GD, R5F101GE, R5F101GF, R5F101GG, R5F101GH R5F101GJ, R5F101GK, R5F101GL
52pin	R5F100JC, R5F100JD, R5F100JE, R5F100JF, R5F100JG, R5F100JH R5F100JJ, R5F100JK, R5F100JL R5F101JC, R5F101JD, R5F101JE, R5F101JF, R5F101JG, R5F101JH R5F101JJ, R5F101JK, R5F101JL
64pin	R5F100LC, R5F100LD, R5F100LE, R5F100LF, R5F100LG, R5F100LH R5F100LJ, R5F100LK, R5F100LL R5F101LC, R5F101LD, R5F101LE, R5F101LF, R5F101LG, R5F101LH R5F101LJ, R5F101LK, R5F101LL
80pin	R5F100MF, R5F100MG, R5F100MH, R5F100MJ, R5F100MK, R5F100ML R5F101MF, R5F101MG, R5F101MH, R5F101MJ, R5F101MK, R5F101ML
100pin	R5F100PF, R5F100PG, R5F100PH, R5F100PJ, R5F100PK, R5F100PL R5F101PF, R5F101PG, R5F101PH, R5F101PJ, R5F101PK, R5F101PL
128pin	R5F100SH, R5F100SJ, R5F100SK, R5F100SL R5F101SH, R5F101SJ, R5F101SK, R5F101SL

The Code Generator is based on the following documents.

Manual Name	Document Number
RL78/G13 User's Manual: Hardware	R01UH0146JJ0300 Rev.3.00
	R01UH0146EJ0300 Rev.3.00

Below is a list of devices supported by the Code Generator for RL78/G14 V2.04.02.01	
PIN	Device name
30pin	R5F104AA, R5F104AC, R5F104AD, R5F104AE, R5F104AF, R5F104AG
32pin	R5F104BA, R5F104BC, R5F104BD, R5F104BE, R5F104BF, R5F104BG
36pin	R5F104CA, R5F104CC, R5F104CD, R5F104CE, R5F104CF, R5F104CG
40pin	R5F104EA, R5F104EC, R5F104ED, R5F104EE, R5F104EF, R5F104EG, R5F104EH
44pin	R5F104FA, R5F104FC, R5F104FD, R5F104FE, R5F104FF, R5F104FG, R5F104FH R5F104FJ
48pin	R5F104GA, R5F104GC, R5F104GD, R5F104GE, R5F104GF, R5F104GG, R5F104GH R5F104GJ, R5F104GK, R5F104GL
52pin	R5F104JC, R5F104JD, R5F104JE, R5F104JF, R5F104JG, R5F104JH R5F104JJ, R5F104JK, R5F104JL
64pin	R5F104LC, R5F104LD, R5F104LE, R5F104LF, R5F104LG, R5F104LH R5F104LJ, R5F104LK, R5F104LL
80pin	R5F104MF, R5F104MG, R5F104MH, R5F104MJ, R5F104MK, R5F104ML
100pin	R5F104PF, R5F104PG, R5F104PH, R5F104PJ, R5F104PK, R5F104PL
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/G14 User's Manual: Hardware	R01UH0186JJ0200 Rev.2.00
	R01UH0186EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/G1A V2.03.02.01	
PIN	Device name
25pin	R5F10E8A, R5F10E8C, R5F10E8D, R5F10E8E
32pin	R5F10EBA, R5F10EBC, R5F10EBD, R5F10EBE
48pin	R5F10EGA, R5F10EGC, R5F10EGD, R5F10EGE
64pin	R5F10ELC, R5F10ELD, R5F10ELE
The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/G1A User's Manual: Hardware	R01UH0305JJ0200 Rev.2.00
	R01UH0305EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/F12 V2.03.02.01	
PIN	Device name
20pin	R5F1096E, R5F1096D, R5F1096C, R5F1096B, R5F1096A, R5F10968
30pin	R5F109AE, R5F109AD, R5F109AC, R5F109AB, R5F109AA
32pin	R5F109BE, R5F109BD, R5F109BC, R5F109BB, R5F109BA
48pin	R5F109GE, R5F109GD, R5F109GC, R5F109GB, R5F109GA
64pin	R5F109LE, R5F109LD, R5F109LC, R5F109LB, R5F109LA

The Code Generator is based on the following documents.	
Manual Name	Document Number
RL78/F12 User's Manual: Hardware	R01UH0231JJ0110 Rev.1.10
	R01UH0231EJ0111 Rev.1.11

Below is a list of devices supported by the Code Generator for RL78/L12 V2.03.02.01	
PIN	Device name
32pin	R5F10RBC, R5F10RBA, R5F10RB8
44pin	R5F10RFC, R5F10RFA, R5F10RF8
48pin	R5F10RGC, R5F10RGA, R5F10RG8
52pin	R5F10RJC, R5F10RJA, R5F10RJ8
64pin	R5F10RLC, R5F10RLA

The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/L12 User's Manual: Hardware	R01UH0330JJ0200 Rev.2.00
	R01UH0330EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/L13 V1.03.02.01	
PIN	Device name
64pin	R5F10WLA, R5F10WLC, R5F10WLD, R5F10WLE, R5F10WLF, R5F10WLG
80pin	R5F10WMA, R5F10WMC, R5F10WMD, R5F10WME, R5F10WMF, R5F10WMG
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/L13 User's Manual: Hardware	R01UH0382JJ0100 Rev.1.00
	R01UH0382EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1E V1.03.02.01	
PIN	Device name
64pin	R5F10FLC, R5F10FLD, R5F10FLE
80pin	R5F10FMC, R5F10FMD, R5F10FME
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G1E User's Manual: Hardware	R01UH0353JJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/G10 V1.04.02.01	
PIN	Device name
10pin	R5F10Y14, R5F10Y16, R5F10Y17
16pin	R5F10Y44, R5F10Y46, R5F10Y47
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G10 User's Manual: Hardware	R01UH0384JJ0200 Rev.2.00
	R01UH0384EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/F13 V2.02.02.01	
PIN	Device name
20pin	R5F10A6A, R5F10A6C, R5F10A6D, R5F10A6E
30pin	R5F10AAA, R5F10AAC, R5F10AAD, R5F10AAE R5F10BAC, R5F10BAD, R5F10BAE, R5F10BAF, R5F10BAG
32pin	R5F10ABA, R5F10ABC, R5F10ABD, R5F10ABE R5F10BBC, R5F10BBD, R5F10BBE, R5F10BBF, R5F10BBG
48pin	R5F10AGA, R5F10AGC, R5F10AGD, R5F10AGE, R5F10AGF, R5F10AGG R5F10BGC, R5F10BGD, R5F10BGE, R5F10BGF, R5F10BGG
64pin	R5F10BLC, R5F10ALD, R5F10ALE, R5F10ALF, R5F10ALG R5F10BLC, R5F10BLD, R5F10BLE, R5F10BLF, R5F10BLG
80pin	R5F10AME, R5F10AMF, R5F10AMG R5F10BME, R5F10BMF, R5F10BMG

The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/F13,F14 User's Manual: Hardware	R01UH0368JJ0100 Rev.1.00
	R01UH0368EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/F14 V2.02.02.01	
PIN	Device name
30pin	R5F10PAD, R5F10PAE
32pin	R5F10PBD, R5F10PBE
48pin	R5F10PGD, R5F10PGE, R5F10PGF, R5F10PGG, R5F10PGH, R5F10PGJ
64pin	R5F10PLE, R5F10PLF, R5F10PLG, R5F10PLH, R5F10PLJ
80pin	R5F10PME, R5F10PMF, R5F10PMG, R5F10PMH, R5F10PMJ
100pin	R5F10PPE, R5F10PPF, R5F10PPG, R5F10PPH, R5F10PPJ

The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/F13,F14 User's Manual: Hardware	R01UH0368JJ0100 Rev.1.00
	R01UH0368EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1C V1.02.02.01	
PIN	Device name
32pin	R5F10JBC, R5F10KBC
48pin	R5F10JGC, R5F10KGC
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G1C User's Manual: Hardware	R01UH0348JJ0100 Rev.1.00
	R01UH0348EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/L1C V1.02.02.01	
PIN	Device name
80pin	R5F110MJ, R5F110MH, R5F110MG, R5F110MF, R5F110ME, R5F111MJ, R5F111MH, R5F111MG, R5F111MF, R5F111ME
100pin	R5F110PJ, R5F110PH, R5F110PG, R5F110PF, R5F110PE, R5F111PJ, R5F111PH, R5F111PG, R5F111PF, R5F111PE
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/L1C User's Manual: Hardware	R01UH0409JJ0200 Rev.2.00
	R01UH0409EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/I1B V1.02.02.01	
PIN	Device name
80pin	R5F10MME, R5F10MPG
100pin	R5F10MPE, R5F10MPG
The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/I1B User's Manual: Hardware	R01UH0407JJ0200 Rev.2.00
	R01UH0407EJ0200 Rev.2.00

Below is a list of devices supported by the Code Generator for RL78/I1D V1.00.03.01	
PIN	Device name
20pin	R5F11768, R5F11769, R5F1176A
24pin	R5F11778, R5F11779, R5F1177A
30pin	R5F117A8, R5F117A9, R5F117AA, R5F117AC
32pin	R5F117BA, R5F117BC
48pin	R5F117GA, R5F117GC

The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/I1D User's Manual: Hardware	R01UH0474JJ0100 Rev.1.00
	R01UH0474EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1G V1.00.02.02	
PIN	Device name
30pin	R5F11EA8, R5F11EAA
32pin	R5F11EB8, R5F11EBA
44pin	R5F11EF8, R5F11EFA

The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G1G User's Manual: Hardware	R01UH0499JJ0100 Rev.1.00
	R01UH0499EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1F V1.00.00.03	
PIN	Device name
24pin	R5F11B7C, R5F11B7E
32pin	R5F11BBC, R5F11BBE
36pin	R5F11BCC, R5F11BCE
48pin	R5F11BGC, R5F11BGE
64pin	R5F11BLC, R5F11BLE

The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G1F User's Manual: Hardware	R01UH0516JJ0100 Rev.1.00
	R01UH0516EJ0100 Rev.1.00

Below is a list of devices supported by the Code Generator for RL78/G1D V1.00.00.02	
PIN	Device name
48pin	R5F11AGG, R5F11AGH, R5F11AGJ

The Code Generator is based on the following documents	
Manual Name	Document Number
RL78/G1D User's Manual: Hardware	R01UH0515JJ0100 Rev.1.00
	R01UH0515EJ0100 Rev.1.00

Please check a checkbox of Code Generator plug-in at additional tab of Plug-in management dialog to use Code Generator for target device.

How to open of Plug-in management dialog: [Tool(T)]-[Plug-in Management(P)…] menu of CS+

Plug-in name	Supported device
Code Generator Plug-in	78K0, 78K0R, V850, a part of RL78(*) *: RL78/I1A, RL78/G12, RL78/G13, RL78/G14, RL78/G1A, RL78/F12, RL78/L12, RL78/F13, RL78/F14
Code Generator/PinView Plug-in	RL78 except the above, RX

Chapter 2. User's Manuals

Please read the following user's manuals together with this document.

Manual Name	Document Number
CS+ Code Generator Peripheral Function Operation	R20UT3104EJ0100
CS+ Code Generator Pin View	R20UT3105EJ0100
CS+ RL78 Pin Configurator	R20UT3106EJ0100
CS+ Code Generator RL78 API Reference	R20UT3102EJ0100
CS+ V3.01.00 Message	R20UT3286EJ0100

Chapter 3. Key Points for Selecting Uninstallation Method

There are two ways to uninstall this product.

- Use the integrated uninstaller (uninstalls CS+)
- Use separate uninstaller (uninstalls this product only)

To use the separate uninstaller, select the following from the Control Panel:

- Programs and Features (Windows Vista, Windows 7, Windows 8)

Then select "CS+ for CC Code Generator for RL78".

Chapter 4. Changes

This chapter describes change from Code Generator for RL78 (CS+ for CC) V2.08.00 to V2.09.00

No	Description	Corresponds of code generation																	
		RL78/G1D V1.00.00.02	RL78/G1F V1.00.00.03	RL78/G1G V1.00.02.02	RL78/I1D V1.00.03.01	RL78/I1B V1.02.02.01	RL78/L1C V1.02.02.01	RL78/G1C V1.02.02.01	RL78/F13 V2.02.02.01	RL78/F14 V2.02.02.01	RL78/G10 V1.04.02.01	RL78/G1E V1.03.02.01	RL78/L13 V1.03.02.01	RL78/L12 V2.03.02.01	RL78/F12 V2.03.02.01	RL78/G1A V2.03.02.01	RL78/G12 V2.03.02.01	RL78/G13 V2.03.02.01	RL78/G14 V2.04.02.01	RL78/I1A V2.03.02.01
1	Changes of debugging monitor setting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Changes of link-option setting for CC-RL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

○ : Correspondence, -: Not correspondence(finish of correction), /: Outside of function

4.1 Details of Changes

4.1.1 Change of method in debug monitor area

When establishing on chip debugging movement, it was changed to a link option of CC-RL build tool so that it might be reflected.

This issue has been corrected in Code Generator for RL78(CS+ for CC) V2.07.00

4.1.2 Changes of link-option setting for CC-RL

When establishing on chip debugging movement, it was changed to a link option of CC-RL build tool so that it might be reflected.

By on chip debugging movement setting "Used" of link option of chosen time and CC-RL build tool" Set debug monitor area." It was corrected so that it might be reflected.

This issue has been corrected in Code Generator for RL78(CS+ for CC) V2.08.00

Chapter 5. Cautions

This section describes cautions for using Code Generator for RL78(CS+ for CC).

5.1 Cautions List

No.	Description	Corresponds of code generation																	
		RL78/G1D V1.00.00.02	RL78/G1F V1.00.00.03	RL78/G1G V1.00.02.02	RL78/I1D V1.00.03.01	RL78/I1B V1.02.02.01	RL78/L1C V1.02.02.01	RL78/G1C V1.02.02.01	RL78/F13 V2.02.02.01	RL78/F14 V2.02.02.01	RL78/G10 V1.04.02.01	RL78/G1E V1.03.02.01	RL78/L13 V1.03.02.01	RL78/L12 V2.03.02.01	RL78/F12 V2.03.02.01	RL78/G1A V2.03.02.01	RL78/G12 V2.03.02.01	RL78/G13 V2.03.02.01	RL78/G14 V2.04.02.01	RL78/I1A V2.03.02.01
1	Cautions of t7he LIN-bus function of UART0, UART2, UART3, UART6 or UARTF.	○	○	○	○	○	○	○	○	○	/	○	○	○	○	○	○	○	○
2	Cautions of extension code, wakeup function and multimaster of serial interface IICA or IIC0	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3	Cautions of the operation for slave transmission of serial interface IICA or IIC0.	-	-	-	-	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
4	Cautions of cooperation with the linker option	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	Cautions of CAN controllers	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	Cautions of PORT	-	-	-	-	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
7	Cautions of the SNOOZE mode of Serial array unit 1	-	-	-	-	-	-	-	-	-	/	/	/	/	/	/	-	-	-	-
8	Cautions of setup of a real-time clock	-	-	-	-	-	-	-	-	-	/	/	/	/	/	/	/	-	-	-
9	~~Cautions when using a DTC function~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~⊖~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~/~~	~~⊖~~	~~/~~
10	Cautions of initial function of an A/D converter	-	-	-	-	-	-	-	-	-	/	/	/	/	/	/	-	-	-	/
11	Cautions of initial function at the time of setting up UART transmission	-	-	-	-	-	-	-	-	-	/	/	/	/	/	/	-	-	-	/
12	Conversion time setup of A/D correction	/	/	/	/	/	/	/	/	/	/	/	/	/	/	-	/	/	/	/
13	Cautions of Complementary assistant PWM mode of Timer RD	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	-	/
14	Cautions of Pin Configurator	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
15	Cautions of Safety Functions	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
16	Cautions of critical errors	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	Cautions of file merger	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
18	Cautions of timer array unit input clock sauce	/	/	/	/	/	/	/	○	○	/	/	/	/	/	/	/	/	/	/
19	Cautions of a high-speed on-chip oscillator	/	/	/	/	/	/	/	○	○	/	/	/	○	○	○	○	○	○	○
20	Cautions of CCRL RI78V4 project	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

○ : Correspondence, -: Not correspondence, /:Outside of function.

5.2 Cautions Details

5.2.1 Cautions of the LIN-bus function of UART0 or UART2 or UART3 or UART6

The code generator is not supporting the LIN-bus functions of serial interface UART0 or UART2 or UART3 or UART6.
[Workaround] There is no workaround.

5.2.2 Cautions of extension code, multimaster, wakeup function of serial interface IICA or IIC0

The code generator is not supporting the extension code, multimaster, wakeup function of serial interface IIC.
[Workaround] There is no workaround.

5.2.3 Cautions of the operation for slave transmission of serial interface IICA or IIC0

During slave transmission, if the master receiver does not return an ACK after the final data is received, then the error API IICA_SlaveErrorCallback(MD_NACK) will be called, regardless of whether the actual slave transmission process ended. For this reason, the program will not terminate normally.

[Work-around] RL78 Code Generator is corrected in V2.03.00.

```
void IICA_SlaveHandler(void)
{
    ...
        if (TRC0 == 1U)
        {
            if ((ACKD0 == 0U) && (glicaTxCnt != 0))
            {
                IICA_SlaveErrorCallback(MD_NACK);
            }
            else
            {
                if (glicaTxCnt > 0U)
                {
                    IICA = *gplicaTxAddress;
                    gplicaTxAddress++;
                    glicaTxCnt--;
                }
                else
                {
                    IICA_SlaveSendEndCallback();
                    WREL0 = 1U;
                }
            }
        }
}
```

5.2.4 Cautions of cooperation with the linker option

The setting of on the chip debugging of the code generation is not coordinated with " Set user option byte" of link-option.
[Workaround] There is no workaround.

5.2.5 Cautions of CAN controllers

The code generator is not supporting the CAN Controllers.
[Workaround] There is no workaround.

5.2.6 Cautions of PORT

There are notes in the port setting of RL78/G13(R5F100LJ, R5F100LK, R5F100LL).
Please do not use a item of P43, P52, P53, and P54 ("TTL buffer" or "N-ch").
[Workaround] RL78 Code Generator is corrected in V1.00.02.

5.2.7 Cautions of the SNOOZE mode of Serial array unit 1

The code generation of RL78/G13 in not supporting the SNOOZE mode of serial array unit 1.

[Workaround] RL78 Code Generator is corrected in V1.00.02.

5.2.8 Cautions of a setup of a real-time clock

When a clock sauce is set to 15(fIL)kHz on device, clock function cannot be used. However, it is displayed on GUI that clock function seems to be used with 15(fIL)kHz. Please do not set up clock function.
[Workaround] RL78 Code Generator is corrected in V1.00.02.

~~5.2.9 Cautions when using a DTC function~~

~~When DTC is used, please set up the following individual option of building. The DATA section is added for DTC to output sauce file "r_cg_dtc.c." Unless the individual option is set up, the following warning message is displayed and an object file is not generated.~~

~~(CC78K0R warning W0837: Output assembler source file , not object file)~~

~~[Workaround] There is no workaround~~

5.2.10 Cautions of initial function of an A/D converter

After making the port 2 a setup which does not compete with an A/D converter, the initialization function at the time of setting up an analog input terminal by an A/D converter has an error. Source code outputted by R_ADC_Create() "PM2 |= 0x??;" The value of 0x?? has an error.

[Workaround] Please set up an A/D converter before setting up the port 2. The right value will be reflected if the port 2 is finally set up. RL78 Code Generator is corrected in V1.00.06.

5.2.11 Cautions of initial function at the time of setting up UART transmission

The source code of a SDRmn register setup is not outputted to initialization function R_UARTn_Create() at the time of choosing only UART transmission.

[Workaround] There is no workaround. RL78 Code Generator is corrected in V1.00.06.

5.2.12 Conversion time setup of A/D correction

Conversion time of the A/D converter of RL78/G1A cannot be set up. Therefore, an A/D converter cannot be used.

[Workaround] There is no workaround. RL78 Code Generator is corrected in V1.00.05.

5.2.13 Cautions of Complementary assistant PWM mode of Timer RD

When TimerRD Complementary PWM mode is used using a high-speed system clock by clock setup of RL78/G14, it is necessary to change a setup of an option byte. RL78/G14 512 pages of R01UH0186JJ0100 Rev.1.00 edited by user's manual hardware Please refer to Notes 1.

[Workaround] There is no workaround. RL78 Code Generator is corrected in V1.00.06.

5.2.14 Cautions of Pin Configurator

The Pin Configurator tool of RL78 was supported from CubeSuite+V1.03.00.

However, there is the following restriction.

- There is a pin which is not reflected even if it performs reflection to pin configurator from code generator.
- Even if it sets up using a code generator PIOR function, it is not reflected to pin configurator.

In the above-mentioned case, please edit terminal information with pin configurator.

[Workaround] There is no workaround.

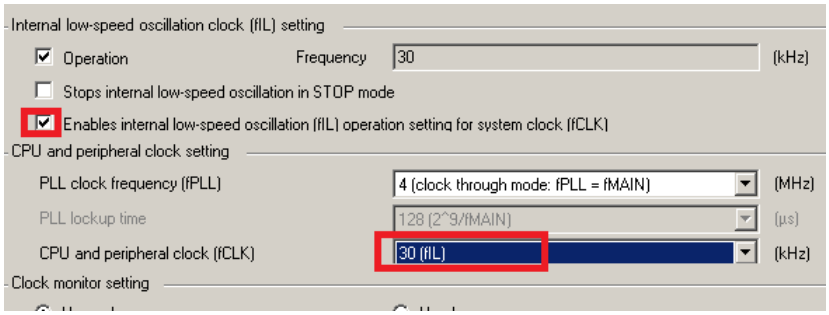
5.2.15 Cautions of Safety Functions

RAM parity error detection function of Safety Functions has not corresponded.
[Workaround] There is no workaround.

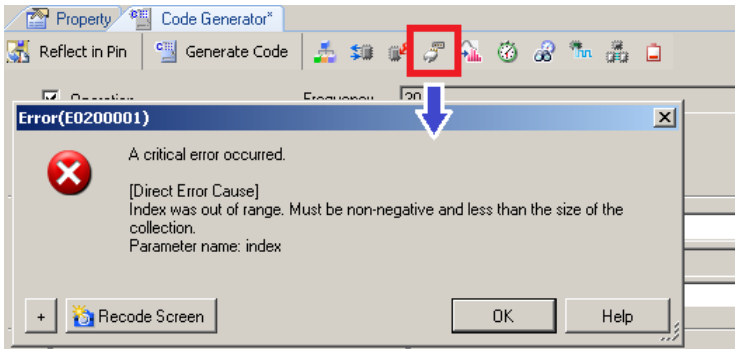
5.2.16 Cautions of critical errors

When the following operation is performed by the code generator of 78K0R/Fx3, a critical error occurs.

a) Clock
- Check in the two following items.

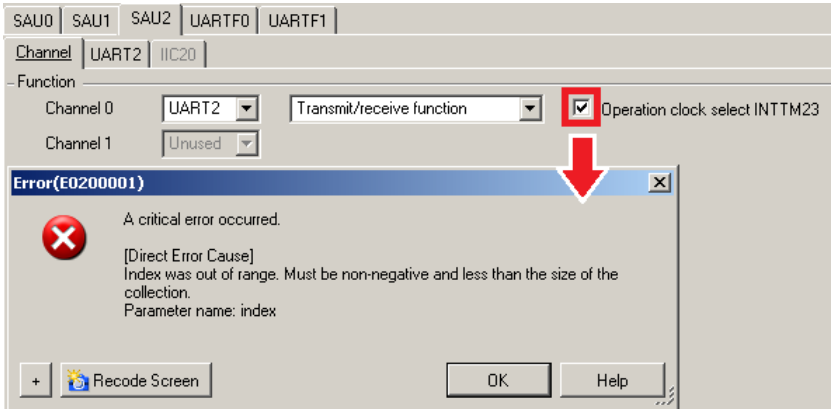


- Selection of a serial panel will generate an exception.



There is no workaround. RL78 Code Generator is corrected in V2.00.01

b) Timer and serial
- Use interruption for the channel 3 of timer TAU2 in a certain mode.
- If a clock of operation checks one serial of serial SAU0, SAU1, and SAU2 "Operation clock select INTTM23", an exception will occur.



There is no workaround. RL78 Code Generator is corrected in V2.00.01

5.2.17 Cautions of file merge

If you select Merge File in Generate File Mode in the property of code generator and the source codes are written between each comment below, the file will be merged.
/* Start user code. Do not edit comment generated here */
/* End user code. Do not edit comment generated here */
However, if the number of braces ("{" and "}") in the edited source codes
(including the comments) are not the same, the edited source codes may disappear
when you run the code generator.

[Workaround] There is no workaround.

5.2.18 Cautions of timer array unit input clock sauce

When the clock sauce of a timer input is set as a RTC1HZ output by setup of a timer array unit, a setup about the output of the RTC1HZ terminal of a real-time clock becomes invalid. The code which outputs RTC1HZ then is not generated.

[Workaround] When you set to a RTC1HZ signal by setup of a timer array unit, please choose a setup which uses a real-time clock and add the code which outputs RTC1HZ.

5.2.19 Cautions of a high-speed on-chip oscillator

When a high-speed on-chip oscillator clock is set up by CubeSuite+ RL78, 78K0R, and 78K0 code generator V2.01.00 or earlier, If it is read by CubeSuite+V2.03.00, a clock frequency setup of a high-speed on-chip oscillator may not be right.
Please re-set up the frequency right in that case.

[Workaround] There is no workaround.

5.2.20 Cautions of CCRL RI78V4 project

The cord generation you shouldn't be able to use in a project of CCRL RI78V4 is indicated. It'll be a build error because an output cord is unsupported even if cord generation is performed.

[Workaround] There is no workaround.

Chapter 6. Restrictions

This section describes the restrictions for the Code Generator for RL78(CS+ for CC).

6.1 Restrictions List

No	Description	Corresponds of code generation																	
		RL78/G1D V1.00.00.02	RL78/G1F V1.00.00.03	RL78/G1G V1.00.02.02	RL78/I1D V1.00.03.01	RL78/I1B V1.02.02.01	RL78/L1C V1.02.02.01	RL78/G1C V1.02.02.01	RL78/F13 V2.02.02.01	RL78/F14 V2.02.02.01	RL78/G10 V1.04.02.01	RL78/G1E V1.03.02.01	RL78/L13 V1.03.02.01	RL78/L12 V2.03.02.01	RL78/F12 V2.03.02.01	RL78/G1A V2.03.02.01	RL78/G12 V2.03.02.01	RL78/G13 V2.03.02.01	RL78/G14 V2.04.02.01	RL78/I1A V2.03.02.01
1	Restrictions of the coding rule of MISRA-C.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2	Restrictions of High-speed on-chip oscillator frequency select register	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	/
3	Restrictions of internal low-speed or internal high-speed oscillator trimming	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4	Restriction of a serial array unit	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	○
5	Restrictions of Flash memory CRC operation function (high-speed CRC)	○	○	○	○	○	○	○	○	○	/	○	○	○	○	○	○	○	○
6	Restrictions of Port mode select register (PMS)	○	○	○	○	○	○	○	○	○	/	○	○	/	/	/	/	/	/

○ : Correspondence, /: Outside of function

6.2 Restrictions Details

6.2.1 Restrictions of the coding rule of MISRA-C

Compliance with the MISRA-C (Guidelines for the Use of the C Language in Vehicle Based Software) coding convention is not supported for source code output by the code generator.

6.2.2 Restrictions of High-speed on-chip oscillator frequency select register

Code generator is not equivalent to a setup of high-speed on-chip oscillator frequency select register

6.2.3 Restrictions of internal low-speed or internal high-speed oscillator trimming

Code generator is not equivalent to a setup of internal low-speed or internal high-speed oscillator trimming register

6.2.4 Restriction of a serial array unit

Code generator is not equivalent to a setup of single-wire UART mode and DMX512 communication.

6.2.5 Restrictions of Flash memory CRC operation function (high-speed CRC)

Code generator does not correspond to a flash memory CRC operation function (high-speed CRC). Please refer to application note r01an0736ej.

http://www.renesas.com/req/keyword_search.do?event=keywordSearch&q=r01an0736ej

6.2.6 Restrictions of Port mode select register (PMS)

Code generator does not correspond to a port mode select register (PMS).

Chapter 7. About API added and changed

7.1 About API added for RL78/G1F

The following is the list of files added with RL78/G1F product and API function names. In addition, please refer to User Manual for the function of other API.

Peripheral Function	File name	API name
TimerRX	r_cg_tmrx.c	R_TMRX_Create R_TMRX_Start R_TMRX_Stop R_TMRX_Get_BufferValue R_TMRX_Set_PowerOff
	r_cg_tmrx_user.c	R_TMRX_Create_UserInit r_tmrx_interrupt
	r_cg_tmrx.h	―

Timer RX(TMRX)

R_TMRX_Create

Performs initialization necessary to control the 16-bit timer RX.

[File Name]

r_cg_tmrx.c

[Syntax]

```
void R_TMRX_Create ( void );
```

[Argument(s)]

None.

[Return value]

None.

R_TMRX_Start

Starts the count for 16-bit timer RX.

[File Name]

r_cg_tmrx.c

[Syntax]

```
void R_TMRX_Start ( void );
```

[Argument(s)]

None.

[Return value]

None.

R_TMRX_Stop

Ends the count for 16-bit timer RX.

[File Name]

r_cg_tmrx.c

[Syntax]

```
void R_TMRX_Stop ( void );
```

[Argument(s)]

None.

[Return value]

None.

R_TMRX_Get_BufferValue

Reads the buffer register of TRX register.

[File Name]

r_cg_tmrx.c

[Syntax]

```
void R_TMRX_Get_BufferValue(uint32_t * const value)
```

[Argument(s)]

I/O	Argument	Description
O	uint32_t * const *value*;	Pointer to an area storing the value that was read from the buffer register of TRX register.

None.

[Return value]

None.

R_TMRX_Set_PowerOff

Halts the clock supplied to the 16-bit timer RX. Calling this API function changes the 16-bit timer RX to reset status. For this reason, writes to the control registers after this API function is called are ignored.

[File Name]

r_cg_tmrx.c

[Syntax]

```
void R_TMRX_Set_PowerOff ( void );
```

[Argument(s)]

None.

[Return value]

None.

R_TMRX_Create_UserInit

Performs user-defined initialization relating to the 16-bit timer RX. This API function is called as the R_TMRX_Create callback routine.

[File Name]

r_cg_tmrx_user.c

[Syntax]

```
void R_TMRX_Create_UserInit ( void );
```

[Argument(s)]

None.

[Return value]

None.

r_tmrx_tmrx_interrupt

Performs processing in response to the timer interrupt. This API function is called as the interrupt process corresponding to the timer interrupt.

[File Name]

r_cg_tmrx_user.c

[Syntax]

CA78K0R Compiler

```
__interrupt static void r_tmrx_interrupt ( void );
```

CC-RL Compiler

```
static void r_tmrx_interrupt ( void );
```

[Argument(s)]

None.

[Return value]

None.

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